



Date: 13/04/2017

To,
The Member Secretary
Goa State Pollution Control Board
EDC, Patto Plaza
Panjim, Goa -403001

Subject: Compliance of Consent conditions of Bicholim Iron Ore Mine, T.C. Nos: 11/1941, 12/1941, 13/1941, 14/1941 & 15/1941, Village Mayem, Lamgao, Bordem, Mulgao & Shirgao of Bicholim Taluka for the month of March 2017.

Ref: Consent to Operate No. 5/2569/15-PCB/CI-554 dated 07/09/2015

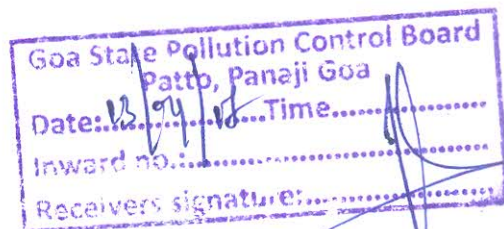
With reference to the condition in Consent to Operate and Authorization granted to Bicholim Iron Ore Mine, we have enclosed herewith the Air and Water Analysis Report for the Month of **March 2017**.

Thanking you,

Yours faithfully,

For Sesa Mining Corporation Limited,

Jagdish Desai
Manager-Environment



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M/s Sesa Environment Laboratory

Vedanta Limited ,Mining Division ,Codli Mines,P.O. Kirlapale ,Goa-403727

Recognised by Ministry of Environment, Forests and Climate change, Govt. of India Vide Notification .S.O.137(E).

dated 12th January 2015 , Valid up to 11.01.2020

* Certified by ISO 9001:2008 and OHSAS 18001:2007

Ambient Air Quality Monitoring Report

Mine Name: Bicholim Mine

Instruments used: Respirable Dust Sampler 460BL

Calibration date: 24.01.2017

Validity of calibration :23.01.2018

Standard method used for analysis: Particulate Matter -Gravimetric method

Monitoring Date	Particulate Matter (24 hourly)				Emission Standards
	2 TOP Mine Face	1 Top Weigh Bridge Service Road	5TOP Ore storage/Loadin g	NSP (Dry screening Plant)	
06.03.2017	215	163	240	944	1200 µg/m3
10.03.2017	262	261	366	913	
13.03.2017	274	292	371	257	
16.03.2017	216	382	316	137	
22.03.2017	253	361	271	323	
24.03.2017	271	341	245	503	
27.03.2017	254	312	341	722	
29.03.2017	263	317	341	351	



Govt. Analyst



Laboratory Incharge

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Ambient Air Quality Monitoring Report

Mine Name: Bicholim Mine

Instruments used: Fine Particulate Sampler APM550 MFC, Respirable Dust Sampler 460 NL, Gaseous Pollutant Sampler

Calibration date: 24.01.2016

Validity of calibration :23.01.2018

Standard method used for analysis: PM10 & PM2.5 - Gravimetric method

SO2 - Improved west & Gaeke

NOx - Modified Jacob & Hoccheiser

Location Name :Ladferm Village					Location Name : Sarvan village			
Monitoring Date	PM _{2.5} in µg/m ³ (24 hourly)	PM ₁₀ in µg/m ³ (24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NOx in µg/m ³ (24 hourly)	PM _{2.5} in µg/m ³ (24 hourly)	PM ₁₀ in µg/m ³ (24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NOx in µg/m ³ (24 hourly)
06.03.2017	38	50	8	14	36	50	8	12
10.03.2017	45	59	10	12	28	59	6	10
13.03.2017	47	67	8	12	32	62	8	12
16.03.2017	39	59	8	10	41	69	10	10
22.03.2017	27	42	6	12	54	77	6	14
24.03.2017	38	46	4	8	50	73	6	12
27.03.2017	42	56	8	14	27	55	8	10
29.03.2017	44	61	6	10	36	62	6	10

Location Name : C S Pilgao Village					Location Name :Lamgao Village			
06.03.2017	26	52	10	14	39	58	8	10
10.03.2017	30	80	8	12	54	71	6	9
13.03.2017	37	46	10	12	33	53	6	10
16.03.2017	39	54	8	10	41	63	8	14
22.03.2017	45	55	8	10	39	43	8	12
24.03.2017	37	70	8	14	48	60	9	11
27.03.2017	42	80	12	16	35	64	8	12
29.03.2017	40	72	10	16	36	45	9	12

NAAQS Limits: PM_{2.5} -60µg/m³ PM₁₀ 100 µg/m³ SO₂ 80 µg/m³ NO_x 80 µg/m³ PM_{2.5} - 60µg/m³ PM₁₀ 100 µg/m³ SO₂ 80 µg/m³ NO_x 80 µg/m³


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Surface Water Analysis Report for the Month of March 2017

Mine Name: Bicholim Mine

Date of Sample collection : 22.03.2017

Standard method used for analysis: APHA Standard

Test Report No: 267

Date of Receipt of sample: 22.03.2017

Analysis completion date: 28.03.2017

Parameter	Unit	Permissible limits	Location						
			1Top settling pond (Vagachiper lease Discharge)	2Top settling pond (Langao lease Discharge)	5Top settling pond (Totichomordon gor lease Discharge)	Upstream River Assanora	Downstream River Assanora	Upstream River Bicholim	Downstream River Bicholim
Colour	Hazen	----	<5	<5	<5	<5	<5	<5	<5
pH	----	5.5 to 9.0	6.71	6.58	6.52	6.96	6.93	6.89	6.92
Turbidity	NTU	----	1.0	1.1	0.9	1.3	1.1	1.0	1.0
Dissolved Solids	mg/lit	----	56	33	24	251	250	1786	1838
Conductivity	µS/cm	----	112	66	48	502	500	3572	3676
Suspended Solids	mg/lit	100	2	2	2	2	2	2	2
Chlorides	mg/lit	----	17	17	7	60	62	963	1062
Total Hardness as CaCO ₃	mg/lit	----	36	14	14	46	48	404	323
Calcium as Ca ⁺⁺	mg/lit	----	8	2	2	11	14	89	65
Magnesium as Mg ⁺⁺	mg/lit	----	4	2	2	4	3	44	39
Sulphate as SO ₄	mg/lit	----	3	2	2	96	98	53	56
Phosphate as PO ₄	mg/lit	5	BDL	0.1	0.1	0.2	0.2	0.2	0.1
Nitrate as NO ₃	mg/lit	10	0.2	0.1	0.1	0.6	0.6	0.6	0.6
B.O.D (3days, 27°C)	mg/lit	30	<3	<3	<3	5	7	<3	3
C.O.D	mg/lit	250	<10	<10	<10	19	29	<10	<10
Total Iron	mg/lit	3	0.15	0.18	0.20	0.17	0.17	0.15	0.11
Manganese as Mn	mg/lit	2	0.07	0.10	0.08	0.07	0.08	0.08	0.06
D.O	mg/lit	----	7	7	7	7	7	7	7
Oil & Grease	mg/lit	10	Nil	Nil	<1	1	1	<1	<1

BDL- Below Detection Limit



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Well Water Analysis Report

Mine Name: Bicholim Mine

Date of Sample collection :22.03.2017

Standard method used for analysis: APHA Standard

Test Report No: 268

Date of Receipt of sample:22.03.2017


Analysis completion date:28.03.2017

Parameter	Unit	Permissible Limit	Location			
			Mayem Village Well	Pilgaon Village Well	Mulgao Well	Lamgao Well
Colour	Hazen	<5.0	<5	<5	<5	<5
pH	-	6.5-8.5	6.21	6.52	6.54	6.6
Turbidity	NTU	5	1.0	1.2	0.8	0.9
Conductivity	µs/cm	-	50	46	50	81
Dissolved Solids	mg/lit	500	25	23	25	41
Suspended Solids	mg/lit	-	1	1	2	2
Chloride	mg/lit	250	9	8	9	17
Total Hardness as CaCO ₃	mg/lit	200	12	12	14	22
Calcium as Ca ⁺⁺	mg/lit	75	2.4	2.4	3.2	2.0
Magnesium as mg ⁺⁺	mg/lit	30	1.5	1.5	1.5	2.9
Sulphate as SO ₄	mg/lit	200	3	2	2	3.0
Nitrate as NO ₃	mg/lit	45	0.1	0.1	0.1	0.1
Alkalinity	mg/lit	200	10	18	25	19
Iron as Fe	mg/lit	0.3	0.08	0.05	0.06	0.04
Manganese as Mn	mg/lit	0.1	0.03	0.02	0.03	0.01
MPN/100ml	mg/lit	Absent	17	20	14	13

BDL- Below Detection Limit


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Well water level Report

Mine Name:Bicholim mine

Instrument Used: Well water tape

Sr.No	Location	Total Depth of well in mtr	Depth of Water level from the reference point in mtr	Water Column in mtr
			22.03.2017	
1	Mulgao Village Well	7.1	5.8	1.3
2	Lamgao Village Well-Santosh	5.4	3.9	1.5
3	Pilgao Village Well- Ratur	5.75	4.35	1.4
4	Mayem Village-Mohan	9.25	8.35	0.9


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